

**STRUCTURAL
ENGINEER'S REPORT
FOR
Northern Glass Works,
Manor Park Road,
Glossop,
SK13 7SH**

1. INTRODUCTION

1.1 Client

Mr & Mrs K & A Knott, Northern Glass Works Ltd, Manor Park Road, Glossop, SK13 7SH

1.2 Location of Property

Mr & Mrs K & A Knott, Northern Glass Works Ltd, Manor Park Road, Glossop, SK13 7SH

1.3 Purpose of Report

The scope of the Report will be with reference to existing structural movements and structural defects in the load bearing elements of the property.

1.4 Scope of Report

The structural inspection carried out was visual only. We did not cut into the fabric of the building or excavate trial holes to expose the existing foundations or bearing strata. Neither did we lift manhole covers to inspect drains, move heavy or fixed items of furniture, or turn back floor coverings. Woodwork and other parts of the structure which were covered or inaccessible were not inspected and we are therefore unable to report that any such part of the property is free from defect. All crack widths are approximate. External observations were carried out from ground level. These general limitations should be considered when reading the findings of our report.

General directions are given as facing the front of the property with your back to Manor Park Road.

1.5 Date of Inspection

Monday 12th December 2022. Conditions at the time of the inspection were overcast with a light snow shower.

1.6 Description of property

The property is a former Sunday school building built in traditional load bearing stonework with a timber truss and rafter roof. The building has been extended historically to the rear, rear right and left and now houses a glass works. The original front building consists of a full double height open space with a small mezzanine area at the rear of the room, whereas the main rear building consists of two storeys with a single storey extension to the rear right of the building and a two storey extension to the rear left. The rear buildings are of load bearing stonework with timber purlin and rafter roofs.

2. GROUND FLOOR INTERNAL INSPECTION

Front Building-Main Double Height Work and Storage Space

Exposed timber floorboards over suspended timber floor joists. Plastered walls and ceiling. Small mezzanine level at rear.

Floor slightly uneven. Some unevenness due to original installation over support points that either were not level to start with or settled differentially over time. Additional unevenness due to deflection of the floor joists under the loading of the stored items.

Diagonal cracking at right hand side of right hand window in front wall. Cracking has been filled historically and has not reopened.

No other visible defects of structural significance.

Mezzanine Level

Minor diagonal and crazed cracking through the plaster finish to the right hand wall at the rear. Diagonal cracking at the right hand end of the rear wall, running up and to the left from approx. 500mm above floor level.

Minor vertical cracking from left hand end of cill to right hand window in rear wall.

Minor vertical cracking on rear wall, approx. centrally on elevation, 1-2mm wide. Plus horizontal cracking through plasterwork in same area.

No other visible defects of structural significance.

Rear Extension Building, Central – Workshop/Admin Space

Suspended ceiling, painted concrete floor and mix of plastered walls and exposed painted blockwork.

Exposed blockwork inner face of rear wall considered to be a later addition, possibly to create a level surface as this section of wall when viewed externally bows outwards.

Hairline crack on front wall from left hand end of door reveal, running up and to ceiling level.

Floor slab reasonably level and in condition commensurate with its age. Assumed uninsulated.

No other visible defects of structural significance.

Rear Right Hand Extension -Workshop (Extension to rear right)

Suspended ceiling, painted concrete floor and plastered walls.

Minor diagonal cracking, max. 1mm wide, above rear upper corner of door reveal, running up and to ceiling level.

No other visible defects of structural significance.

3. FIRST FLOOR INTERNAL INSPECTION

Stairwell and Landing

No visible defects of structural significance.

Left Hand Extension - Office (Left)

Plastered walls and ceiling. Suspended timber floor.

Minor vertical crack on rear wall approx. 1mm wide.

Water staining to ceiling by roof hatch at rear right.

Minor vertical cracking on right hand wall approx. half way along.

No other visible defects of structural significance.

Rear Extension Central - Upper Workshop/Storage (Central Rear)

Plastered walls, plastered ceiling finish to pitched roof with exposed painted purlins, exposed floorboards.

New window in front wall at high level with some missing plaster below window reveal.

Hairline cracking, up to 1mm wide, through plaster finishes generally at lower levels of the front wall. Some areas obscured by stored items up against the wall.

1-2mm wide diagonal cracking from ceiling, running down and towards the right between the first and second purlins at the left hand end of the front wall. Cracking wider at lower level, tapering towards the ceiling. Further minor diagonal cracking from second purlin running across to the window reveal.

Minor diagonal cracking at right hand end of wall from lower purlin running down and across for around 500mm. Further minor diagonal to vertical cracking from top right hand purlin running to right and then vertically down. Damp staining to area of ceiling above and missing section of ceiling plasterwork further to the right.

Minor cracking of plaster finish around the internal lintel to the window in the left hand elevation.

2-3mm wide diagonal cracking above righthand window in rear wall, from right hand end of window running up and to the left to ceiling level. Further cracking from left hand end of window reveal running down and to the left, as well as more minor cracking running up and to the right. Ceiling to the rear right bowing between top most and second purlin.

4. ROOF VOID INSPECTION

The floor to the roof void has been boarded historically. The floor level rises up towards the left hand side.

Roof rafters, purlins and trusses were exposed.

Ends of the front left hand purlins appeared to be damp. Metal straps connected to purlins in these locations. Assumed these are connected to the floor structure but stored items obscured the view.

4th lower rafters at front right appeared to have a rotten section. 6th rafter had a split. 1st upper rafter at front right was split. 3rd rafter from left at rear left appeared to have a rotten section.

Splicing repair detail at the top of rafters at left hand side of roof was poor.

No other visible defects of structural significance.

5. EXTERNAL INSPECTION

Front Elevation - Front of 'Front Main' Building

Stonework frontage with decorative stone arched lintels over window and door openings.

Minor diagonal stepped cracking above original date stone (largely obscured by newer signage). Some missing mortar to joints at either side.

Minor crack through central joint directly above door lintel.

Minor stepped cracking from lower left corner of right hand window cill, running down and to the right for four courses.

Strap ribbon pointing to the elevation. Some deterioration of face of some stonework.

Staining of stonework above vent pipe. Either leak from gutter above or due to condensate from pipe.

Small number of slipped or slightly displaced tiles on front elevation of roof.

No other visible defects of structural significance.

Front Elevation - Front of 'Main Rear' Building

Rendered elevation visible to left of main front building. Lower level obscured by storage unit positioned immediately to the front of this section of elevation.

Diagonal cracking at upper level, from approx. level with the eaves of the front building, running up and to the left.

Patches of damaged or deteriorated render to upper levels.

No other visible defects of structural significance.

Front Elevation - Front of 'Rear Left Extension'

Rendered and painted elevation.

No visible defects of structural significance.

Right Elevation (viewed from front)

Right Elevation - Main Front Building

Stonework with stone lintels over window openings.

Slight outward stepping of the elevation, course by course. No cracking was noted or significant bowing.

No visible defects of structural significance.

Right Elevation – Rear Right Extension

Exposed stonework.

No visible defects of structural significance.

Left Elevation (viewed from front)

Left Elevation - Main Front Building

Stonework with stone lintels over window openings.

Slight outbound bow of the wall around the level of the window cill, gradually tapering back to level approx. half way up the window.

No other visible defects of structural significance.

Left Elevation - Main Front Building

Rendered and painted elevation.

Slight staining to the paint finish to first floor window cill

No other visible defects of structural significance.

Left Elevation - Rear Left Extension

Limited view from rear. Stonework exposed at ground floor, rendered and painted finish above.

No visible defects of structural significance.

Rear Elevation

Rendered to main elevation and left hand extension, exposed stonework to right hand extension.

4 no. pattress ties visible on main elevation (main rear building) at around ground floor ceiling level plus additional tie at right hand side roof level. Slight cracking through render finish around the installed ties. External plates of pattress ties rusting and plate curves at edges.

Lower level of main elevation bowed out above ground level to ground floor window cill level. Cracking of render finish from lower corners of window cills running downwards.

Vertical cracking through render finish at junction between the main rear building and the rear left hand extension.

Minor stepped diagonal cracking through the joints under the window to the right hand extension towards the right hand end of the window.

No other visible defects of structural significance.

6. DISCUSSION OF PROPOSED REDEVELOPEMENT WORKS

It is understood that it is proposed to convert the building from the current light industrial use to residential. The proposal involves limited structural alterations, with the main change being the construction of a large mezzanine level to the main front space.

The change of use from light industrial or former school to residential does not pose any structural loading issues as residential loadings are lower than both of the previous usage loading allowances. We therefore consider the building capable of taking the loadings given the current proposals.

The construction of an alternative mezzanine in the main front space is considered to be achievable structurally within the space, and it is anticipated the new mezzanine structure will be entirely supported independently from the existing structure so minimizing any connection into, and so damage to, the existing structure. It is likely that the mezzanine will be supported on steel columns that will pass through the ground floor, where pockets will be required through the existing floor boards, though the floor void to new mass concrete pad footings founded on the anticipated clay ground beneath. There were no structural issues noted during the inspection that would hinder the mezzanine being extended across the main front space to create a larger first floor area.

7. CONCLUSIONS & RECOMMENDATIONS

- 7.1** The side elevations of the main front building are not entirely level. This appears to be part of the original construction to the right hand elevation and the bowing to the left hand elevation is localised to the rear of the rear window opening. We consider these to be longstanding and not currently structurally significant. There was some small areas repointing required to the front elevation where there was minor cracking or missing mortar around the signage.
- 7.2** There were numerous cracks to the internal face of the front wall of the main rear building at first floor to roof level. There was also a diagonal crack at the left hand end of the external elevation of this wall that reciprocated cracking internally. There was further cracking on the rear wall, particularly to the right hand side, and some of the ceiling plaster finish was sagging and a section missing. The internal plaster finishes are considered to be old and plaster become more brittle with age, especially with the drying out of the internal environment due to the installation of central heating, which can lead to cracking of the finish. It is noted that there has also been a roof leak which has contributed to the deterioration of the ceiling plaster finish at the front right. We would recommend that the plaster be removed and then the walls reinspected to determine if there is any true underlying structural cracking. We would suggest making an allowance for some crack stitching repair works to the upper left side of the front wall, both internally and externally, and some crack stitching above and to the left of the right hand window in the rear wall internally. A crack stitching repair example is provided in the Repair Appendix at the end of this report.

- 7.3** There has been historic movement of the rear wall that is evidenced by the bowing at lower level, the installation of pattress ties, and the construction of the blockwork inner leaf at ground floor level. The render finish to the wall is now cracked around the pattress tie positions, as well as cracking under the ground floor windows and a vertical crack at the junction between the main rear building and the left hand extension. It is assumed that the pattress ties were installed to restrain the wall to prevent bowing or separation of the leaves of the wall. There were no current indications that this was not performing adequately although there was some cracking of the render adjacent to the ties considered due to differential in thermal movement between the steel pattress and the render finish and stone beneath. The pattress plates were starting to rust and are in need of some maintenance. It is recommended that consideration be given to either cleaning down of the plates with a wire brush to remove any loose material and then repainting in a protective paint such as Fosroc Galvafrid, or alternatively, a more modern technique of using chemical ties, such as Helifix ChemTies, to secure the stone leaves together could be used and this would mean that the pattress ties could be removed. We would also recommend that additional ties are installed to further secure the wall to the first floor. This use of chemical ties would also be recommended for the lower level of wall where the bowing is quite significant. The lower level should be tied within the next 12-18 months. Details of the ChemTies are given in the repair appendix. All installations of such ties should be done by an accredited installer.
- 7.4** There was some minor stepped cracking under the window in the rear elevation of the right hand single storey extension. It is considered likely that this extension has been built on shallower footings than the main buildings and is founded within the ground at a level susceptible to seasonal movement. The swelling and shrinkage of the ground seasonally causes movement and so cracking in the supported masonry. The cracking is not currently structurally significant and can be filled but it is likely to reoccur and require repointing again in the future. Crack stitching, using stainless steel bars embedded in the mortar joints such as Helifix Helibars, would help to strengthen the masonry panel to reduce the opportunity for the cracking to reopen. However, depending on the nature of the footing and the underlying ground, some cracking may eventually reappear.
- 7.5** There were a small number of timber rafters to the main roof that were split or deteriorated, or spliced in a poor manner. The left hand end of the roof purlins were also potentially damp indicating some water ingress at the support points. A small number of loose or displaced roof tiles were noted on the front elevation of the roof. There was also evidence of water ingress from the roof to both the rear building and the rear extension. We would therefore recommend a competent roofer inspect all the roofs and replace the deteriorated rafters and splices, reposition roof tiles, and check around the purlin ends for signs of water ingress and general deterioration of the roof finishes.
- 7.6** We draw the Client's attention to the cracking and distortions referred to in the Report. Although this report concludes that the cracking and distortions are long-standing, it is possible that, as with all properties, they could affect the future sale or valuation of the property if they are not repaired. We would class these repairs as being of a cosmetic nature once the recommendations above have been undertaken.



Dr Jenny Capp MEng PhD CEng MStructE
For and on behalf of R Rhodes & Partners (Consulting) Ltd

**CLIENT'S GUIDE TO A STRUCTURAL ENGINEER'S REPORT
ON A COMMERCIAL PROPERTY OR STRUCTURE BY
R. RHODES & PARTNERS (CONSULTING) LTD**

'The Client'	The person or company signing the Instruction to Proceed.
'The Company'	R Rhodes & Partners (Consulting) Ltd.
'The Property'	The commercial property or structure which is to be inspected and on which the Client has instructed the Company to report.

The Report is a written document which describes the results of an inspection of the Property carried out by a Senior Structural Engineer working for the Company. The Report is prepared on the instructions of the Client and is solely for the use of the Client and their professional advisors (e.g. solicitor, chartered surveyor or architect).

The inspection will be visual and will cover only the structural, load-bearing elements of the Property which are reasonably accessible. Woodwork and roof coverings will not be inspected and neither will any parts of the Property which are inaccessible or in the ground. Services (such as drains, gas, water and electricity etc.) are not included in the inspection.

The Company will not inspect every square inch of the Property otherwise the fee payable by the Client would have to be substantially larger. When instructed by the Client, the scope of the inspection will be limited to faults identified by the Client or identified in a previous survey, in which case the remainder of the Property will only be briefly inspected and reported on by the Company.

It is not always possible to discover defects which are concealed, the Company's Senior Structural Engineer will use intuition and experience regarding inaccessible areas but does not possess X-ray vision!

The Report will list the structural defects observed and, where practicable, explain what has caused them and provide recommendations regarding the need for remedial work and/or further investigation. No tests or exploratory investigations will be carried out (unless instructed by the Client and/or included in our scope of services) but an informed opinion will be given in the Report as to whether faults may exist and whether tests should subsequently be carried out to obtain further information. The detailed design of remedial works is not included in the Report fee.

Please note we are **not** damp specialists and do not carry damp or moisture meters (or damp or moisture detecting devices/equipment). On those occasions *where we are able* to view dampness, we will record it, but we recommend that you contact a damp specialist for further investigation. We can provide you with details of such companies.

When the Company is inspecting a Property which is not owned by the Client, the Company must exercise a degree of care to the Owner. If the occupier of the Property refuses to move obstructions or refuses access to any part of the Property, then the Company must abide by the occupier's decision and will record the occupier's refusal in the Report.

The Report is not an Insurance or a Warranty regarding the condition of the Property; it is a considered professional opinion given by the Company using reasonable skill, care and diligence, based on their experience in such matters.

When the Client instructs us to prepare calculations and details for structural remedial works, these are prepared on the basis that the building work will be directed and undertaken by an experienced, competent building contractor. The submission of a Building Regulations application is the responsibility of the client or his architect unless we have been instructed otherwise.

Our duties will be performed with reasonable skill, care and diligence. In the unlikely event of a breach of duty by ourselves, our liability shall be limited to that proportion of such liability which it would be just and equitable to require us to pay having regard to the extent of our responsibility. This is on the basis that all other consultants and advisors involved are deemed to have provided contractual undertakings to you about the performance of their services which are no less onerous than this agreement; they would also be deemed to have paid to you such a proportion which it would be just and equitable for them to pay having regard to the extent of their responsibility.

Our liability shall be limited to the reasonable cost of repair arising from any defect in the building work by reason of our breach of duty and shall exclude any other economic or financial loss. Liability to third parties for all or any part of our services provided in connection with this agreement is specifically excluded.

SER Commercial Guide 10 / 2021

APPENDIX

REMEDIAL REPAIR OPTIONS

The following details are taken from the Helifix website (www.helifix.co.uk) and are for illustrative purposes only. Exact installation details will be required prior to obtaining costings or commencement of any site works.

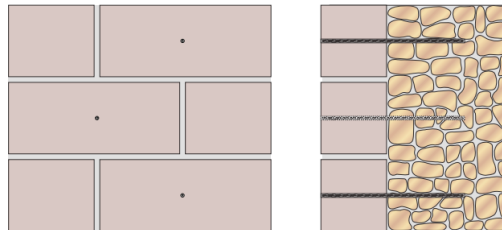
Repair to Rear Wall -bowing and separation
Option 1

RF04

Repair of Stone-Faced Random Stone Walls using CemTies through Stone Faces

METHOD STATEMENT

1. Mark the positions for the holes on the outer face of the wall.
2. Drill a 14mm clearance hole (16mm if the CemTie is longer than 450mm), at the required location, through the stone facing of the wall and into the backup material to the specified depth.
3. Clean out ALL dust from the hole and thoroughly flush with water. Where the substrate is very porous or flushing with water is inappropriate, use HeliPrimer WB. Ensure the hole is damp or primed prior to commencing step 7.
4. Attach the required length of CemTie pinning nozzle to the gun.
5. Mix HeliBond cementitious grout using a power mixer and load into the Helifix Pointing Gun HD.
6. Pump grout to fill the nozzle.
7. Wind the CemTie into the nozzle and ensure that it is fully covered in grout.
8. Insert the nozzle to the full depth of the drilled hole and pump the grout until the CemTie is fully embedded.
9. Make good all holes at the surface with matching mortar and stone dust.
10. Clean tools with clean, fresh water.



RECOMMENDED TOOLING

For drilling.....SDS rotary hammer drill 650/700w or diamond core drill
For mixing HeliBond.....3-jaw-chuck drill with mixing paddle
For insertion of the CemTies.....Helifix Pointing Gun Kit HD with pinning nozzle

Specification Notes

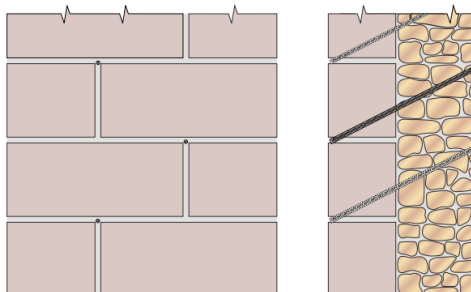
The following criteria are to be used unless specified otherwise:

- A. The density of the ties will depend upon the condition of the masonry and the loading it is expected to withstand. In general, the density should not be less than 2.5 ties/m² (900mm x 450mm).
- B. The depth of fixing into the backup material must be a minimum of 50mm to provide a secure connection (prior testing may be required).
- C. Depth of hole to be CemTie length +25mm.
- D. In hot conditions ensure the masonry is well wetted or primed to prevent premature curing of the HeliBond due to rapid de-watering. Ideally

Hidden Repair of Stone-Faced Random Stone Walls using CemTies through Mortar Joints

METHOD STATEMENT

1. Mark the positions for the holes on the outer face of the wall.
2. Drill a 14mm diameter hole (16mm if the CemTie is longer than 450mm), angled upwards where possible, to pass through the brick above and into the backup material to the specified depth.
3. Clean out ALL dust from the hole and thoroughly flush with water. Where the substrate is very porous or flushing with water is inappropriate, use HeliPrimer WB. Ensure the hole is damp or primed prior to commencing step 7.
4. Attach the required length of CemTie pinning nozzle to the gun.
5. Mix HeliBond cementitious grout using a power mixer and load into the Helifix Pointing Gun HD.
6. Pump grout to fill the nozzle.
7. Wind the CemTie into the nozzle and ensure that it is fully covered in grout.
8. Insert the nozzle to the full depth of the drilled hole and pump the grout until the CemTie is fully embedded.
9. Make good all holes at the surface with matching mortar and stone dust. The crack within the wall should be weather-proofed using an appropriate Helifix bonding agent e.g. HeliBond or CrackBond, depending on the width of the crack and the surface made good or left ready for any decoration.
10. Clean tools with clean, fresh water.



RECOMMENDED TOOLING

For drilling.....SDS rotary hammer drill 650/700w or diamond core
 For mixing HeliBond.....3-jaw-chuck drill with mixing pa
 For insertion of the CemTies.....Helifix Pointing Gun Kit
 with pinning no

Specification Notes

The following criteria are to be used unless specified otherwise:

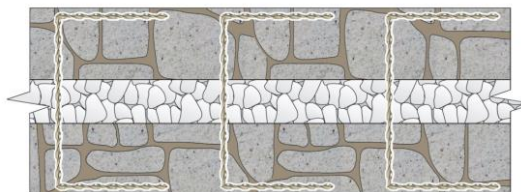
- A. CemTies are to be installed at an angle of 30° to 40° to allow sufficient fixing in the stone facing.
- B. The density of the ties will depend upon the condition of the masonry and the loading it is expected to withstand. In general, the density should not be less than 2.5 ties/m² (900mm x 450mm).
- C. The depth of fixing into the backup material must be a minimum of 50mm to provide a secure connection (prior testing may be required).
- D. Depth of hole to be CemTie length +25mm.
- E. In hot conditions ensure the masonry is well wetted or primed to prevent premature curing of the HeliBond due to rapid de-watering. Ideally

RF10

Repair of Delaminated or Separating Masonry in a Rubble-Filled Wall using HeliBars

METHOD STATEMENT

1. Mark the positions for the holes on the outer face of the wall.
2. Drill 12mm clearance holes through the wall in a staggered pattern.
3. Using a twin-bladed, diamond-tipped wall chaser and vacuum attachment, cut 350mm long slots into the horizontal mortar joints to one side of the holes, to the specified depth and at the required vertical spacing. Ensure that **NO** mortar is left attached to the exposed stone surfaces in order to provide a good masonry/grout bond. This operation may require the use of hand tools to remove the mortar due to the random nature of the stone.
4. Repeat step 3 on the other side of the wall ensuring the slots are opposite those already cut.
5. Clean out ALL mortar from the slots and dust from the slots and holes and thoroughly flush with water. Where the substrate is very porous or flushing with water is inappropriate, use HeliPrimer WB. Ensure the holes are damp or primed prior to commencing step 9.
6. Mix HeliBond cementitious grout using a power mixer and load into the Helifix Pointing Gun CS.
7. Fit an appropriate mortar nozzle.
8. Insert the HeliBar through the hole, making sure that it is long enough for a minimum of 300mm to be bent at right angles and bedded into the slots on both the inner and outer faces of the wall.
9. Inject a large bead of HeliBond grout, approx. 15mm deep, into the back of the slot on the outer face and tool firmly into the slot.
10. Bend the HeliBar to the required angle and push firmly into the grout to obtain good coverage.
11. Inject a second smaller bead of HeliBond grout over the exposed HeliBar and iron it into the slot using a finger trowel. Inject additional HeliBond grout as necessary, leaving 10-15mm for new pointing.
12. Point up the remaining slot with a suitable matching mortar and make good the crack using an appropriate Helifix bonding agent depending on the width of the crack.
13. Repeat steps 9 to 12 on the inner wall.
14. Clean tools with clean, fresh water.



RECOMMENDED TOOLING

- For cutting slots up to 40mm deepTwin-bladed cutter with vacuum attachment
- For drillingSDS rotary hammer drill 650/700w
- For mixing HeliBond3-jaw-chuck drill with mixing paddle
- For insertion of the CemTiesHelifix Pointing Gun Kit HD with pinning nozzle
- For smoothing pointingStandard finger trowel

Specification Notes

The following criteria are to be used unless specified otherwise:

- A. Depth of slot into the masonry to be 35-40mm + the thickness of any render.
- B. Height of slot to be equal to full mortar joint height, with a minimum of 8mm. For thin mortar joint specifications refer to the Helifix Technical Dept.
- C. Bars to be installed at 450mm vertical x 450mm horizontal centres in a staggered pattern.
- D. In hot conditions ensure the masonry is well wetted or primed to prevent premature drying of the HeliBond due to rapid de-watering. Ideally additional wetting of the slot, or priming with HeliPrimer WB, should be carried out just prior to injecting the HeliBond grout.
- E. Do not use HeliBond when the air temperature is +4°C and falling or apply over ice. In all instances the slot must be thoroughly damp or primed prior to injection of the HeliBond grout.

The above specification notes are for general guidance only and Helifix reserves the right to amend details/notes as necessary.

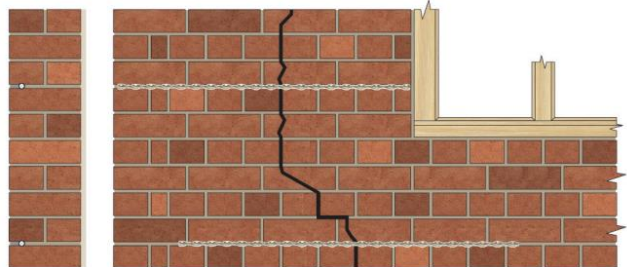
GENERAL NOTES

If your application differs from this repair detail or you require specific advice on your particular project, call the Helifix Technical Sales Team on 020 8735 5222. Our Technical Department can provide you with a full support service including:

Crack Stitching a Solid Wall using HeliBars

METHOD STATEMENT

1. Using a twin-bladed, diamond-tipped wall chaser with vacuum attachment, cut slots into the horizontal mortar joints to the specified depth and at the required vertical spacing. Ensure that NO mortar is left attached to the exposed brick surfaces in order to provide a good masonry/grout bond.
2. Remove ALL dust and mortar from the slots and thoroughly flush with water. Where the substrate is very porous or flushing with water is inappropriate, use HeliPrimer WB. Ensure the slot is damp or primed prior to commencing step 5.
3. Mix HeliBond cementitious grout using a power mixer and load into the Helifix Pointing Gun CS.
4. Fit the appropriate mortar nozzle.
5. Inject a bead of HeliBond grout, approx. 15mm deep, into the back of the slot.
6. Push the 6mm HeliBar into the grout to obtain good coverage.
7. Inject a second bead of HeliBond grout over the exposed HeliBar and iron it into the slot using a finger trowel. Inject additional HeliBond as necessary, leaving 10-15mm for new pointing.
8. The crack within the wall should be weather-proofed using an appropriate Helifix bonding agent e.g. HeliBond or CrackBond, depending on the width of the crack and the surface made good or left ready for any decoration.
9. Clean tools with clean, fresh water.



RECOMMENDED TOOLING

- For cutting slots up to 40mm deepTwin bladed cutter with vacuum attachment
- For mixing HeliBond3-jaw-chuck drill with mixing paddle
- For injection of HeliBond into slotsHelifix Pointing Gun CS with mortar nozzle
- For smoothing pointingStandard finger trowel

Specification Notes

The following criteria are to be used unless specified otherwise:

- A. Depth of slot into the masonry to be 35mm to 40mm.
- B. Height of slot to be equal to full mortar joint height, with a minimum of 8mm. For thin mortar joint specifications refer to the Helifix Technical Dept.
- C. HeliBar to be long enough to extend a minimum of 500mm either side of the crack or 500mm beyond the outer cracks if two or more adjacent cracks are being stitched using one rod.
- D. Normal vertical spacing is 450mm (6 brick courses).
- E. Where a crack is less than 500mm from the end of a wall or an opening